with the regulations of the California State Board of Health.

While it is probable that rabies is under control, this control can be made complete only by the continuous enforcement of stringent muzzling laws over a long period of time.

THE PROGNOSIS OF PROSTATITIS.*

By MELVILLE SILVERBERG, M. D., San Francisco

If diagnosis may be represented as of two dimensions, prognosis may be considered as determining the third. As it projects into the future its influence becomes dynamic and in place of a flat picture one is obtained offering perspective. This casting into relief, as it were, is as essential for the purposes of orientation as range lights to the pilot. In any approach to disease, whether general or specific, the attitude of mind based upon deductions as to its probable course and the possible contingencies defines the views of the present in terms of the future, rationalizes them and stabilizes them. It is this very attitude of mind toward a single pathological condition which the following discussion will attempt to present.

The views expressed are personal, the result of daily observation and study influenced of course by the communications of others on the subject as gathered from the literature. In presenting these views generalization with a broad range of application has been sought rather than a detailed inspection of a series of cases. Let it at least be assumed that this has been done, thus sparing a tedious survey of figures, percentages, etc.

In the desire to attain proficiency in the more technical and scientific branches of urology the result has unfortunately been that lesser ailments amenable to the exercise of ordinary skill are temporarily lacking the important consideration which some of them need. The methods of treatment are still crude and too often ineffectual. The gross empiricism by which they became established still dominates our conception of a proper therapy, which the results justify to a great extent. But on the other hand improved methods of investigation and control have shown that there are limitations upon the possibilities for effectiveness in that cases occasionally fail to respond.

When a pathological condition is commonly met with and has the far-reaching significance of prostatitis, any failure of the accepted measures to combat it occasions regret. That these measures are not entirely satisfactory is rendered evident by the large number of sufferers who pass from competent hands into other competent hands, constantly failing to find a modicum of relief until they eventually become hopelessly discouraged. Prognosis through the very fact of uncertainty therefore becomes a vital problem not only as regards the individual, but also from the standpoint of hygiene and prophylaxis.

The individual being sensitive to any impairment of the sexual organs, the mere consciousness of chronic disease in itself is sufficient to occasion concern. But whether symptoms be present or absent the demands for alleviation and cure are no less urgent, for prostatitis needs to be controlled in the interests of public welfare. There is little doubt that from it contagion is frequently disseminated by promiscuous intercourse. In fact it may be conservatively stated that, were it not for the prevalence of chronic prostatitis, gonorrhea would cease to be practically universal.

Of far greater moment, because more disastrous in its results, the problem of possible marital infection is one demanding most earnest attention. The situation may become most disconcerting, for the questions involved are vital to the welfare of the individual if contemplating marriage, and frequently disastrous to the integrity of domestic life if marriage has already taken place. How often will a prostatitis remain as the only sequel of an acute urethritis contracted years before and seemingly cured! The task of interdicting marriage under such circumstances to a young man, who may be otherwise preeminently fit, is a most unpleasant one. But when after a happily consummated marriage a long dormant pathological process, awakening, threatens to disturb the serenity of conjugal life, the situation is to be decidedly deprecated, commanding unusual sympathy.

It will thus be seen that the proposition of prognosis enters as a consideration of greatest moment. Unfortunately it is impossible to forecast any case with the clearness of prophetic vision. There are, however, certain factors arresting attention, which, when properly correlated, may help to cast light upon the outcome. A review of these factors is the motive underlying the present contribution. They divide themselves under three general headings: Firstly, the details of the history; secondly, the objective examination, especially the microscopic appearances of the prostatic secretion; and, thirdly, the influence of treatment.

As regards the history, it must be apparent to anyone constantly handling cases of prostatitis that those in which the disease must have been present for some years are usually the most unpromising. It is therefore incumbent to endeavor to ascertain, as far as probabilities will allow, when the gland first became invaded. Usually this will have taken place with the first attack of gonorrhea and will have persisted. If exacerbations have occurred from time to time, it is reasonable to assume that the prostate in whole or in part must have become thereby more or less disorganized and the outlook is accordingly rendered less hopeful. But if such a desperate attitude in regard to long-standing cases is to be assumed, the contrary is true of recent invasions. An early case, other things being equal, certainly offers the most favorable outlook.

This being true, it follows in the interest of the patient's future that the logical course to pursue is to examine for and treat prostatitis at the earliest permissible opportunity. It must be emphatically borne in mind that extension into the prostate takes place in a large percentage of cases of gonorrhea and that this is frequently so insidious that it cannot be suspected from the symptoms.

* Presented at a meeting of the Urological Section of the San Francisco County Medical Society August 31, 1915.

Therefore no case should be dismissed as cured until a proper examination of the prostate has been made. Such a statement would seem almost superfluous, were it not for the general neglect of this most important procedure which requires nothing but a discerning finger and the ability to recognize pus microscopically. The patient usually pays for the omission later with discomforts of various kinds and of varying degree, his prospects for restitution diminished by time.

The second factor mentioned as offering a basis for prognosis concerns the objective examination, especially the microscopic character of the secretion. There are, of course, two methods in common use of ascertaining the condition of the prostate, rectal palpation and microscopic analysis. Now inasmuch as discrepancies are likely to occur, the relative importance of the two is open to discussion. To be sure, when possible, the facts determined by both methods should be so correlated as to permit the formulation of an approximately truthful pathological picture. But it is a question which of the two affords a more accurate and safer standard for comparison. In my own experience I have come to rely more and more upon the microscopic examination, having found that rectal palpation may be misleading. The conformation of the rectal surface of the normal prostate is subject to variations in size as well as of contour. Asymmetry is not uncommon and differences of consistency, such as hard and soft areas, are frequently met with in a single gland, which otherwise shows no evidence of disease. On the other hand glands which are the seat of frank inflammation may prevent a smooth surface, perfect symmetry, regularity of outline, and a uniform, firm, elastic consistency. In other words, as far as evidence elicited by palpation is concerned the prostate is to be considered normal. But the picture presented by the massaged secretion fails to substantiate such a conclusion.

While it is therefore unsafe to rely upon the data of rectal palpation alone, observation of the expressed secretion without an attempt at critical interpretation may be delusive. To the unaided eye a specimen of prostatic secretion obtained by massage, though it contain abundant pathological elements, nevertheless frequently can not be distinguished from the normal, presenting the same grayish, opalescent, homogeneous appearance. The necessity of microscopic examination is therefore obvious. The observer will not alone have the advantage of determining the presence or absence of pus cells or organisms, but will be able to gain a fair estimate of the extent of prostatic involvement. In this he will be guided by noting the proportion of pus cells to the normal elements of the secretion. In some specimens indicating marked involvement the latter may be almost entirely absent; in others indicating less extensive changes the pus cells, though numerous, may be interspersed by a fair proportion of lecithin bodies; again in the mildest cases the appearance may be generally normal with only a moderate number of pus cells.

Generally speaking, the less the gland is involved as disclosed by the microscopic picture the more favorable the outlook. But certain sources of error must be recognized. Firstly, the distribution of pathological elements may be uneven. The first drop or two expressed may show abundant pus cells and few lecithins, while subsequent drops may show the quantitative proportions reversed. Casual inspection of the mixed secretion so obtained would suggest a moderate, diffuse prostatitis, whereas in truth marked involvement in a small focus may be thus masked and the prognosis is accordingly less hopeful than would appear. Secondly, the density of the lecithin bodies is subject to variation even in a given individual. At one time the secretion may be thin and watery, at another pearly white and almost opaque. If the estimate of degree of involvement of the prostate is then to be based upon the numerical proportion of pus cells to lecithin bodies, this variable becomes a possible source of faulty deduction. Thirdly, this is not the only variable, as the pus cells too may be found to vary in number on successive examinations, though within narrower limits. The recognition of such fluctuating features as the foregoing must have weight in any critical interpretation of the microscopic picture before any conclusion can be based upon the premises.

The third factor determining prognosis depends upon the influence of treatment. Before, however, considering therapy one might well ask what are the chances for spontaneous recovery. To what extent do inherent recuperative powers play a part? Now while it is true that the great majority of untreated cases of prostatitis persist with an aggravating obstinacy, it cannot be denied that occasionally the condition clears up quite independently. Examinations made at infrequent intervals are quite sufficient to establish the truth of this statement. Had these examinations been made more frequently and repeatedly, it might be reasonably alleged that a form of effective therapy, namely prostatic massage, had been employed and that therefore the cases could not properly be considered as untreated. This is, of course, not to be understood. Again, it has been surprising to note occasionally after an extension into the posterior urethra accompanied by severe symptoms that at a period when these symptoms have subsided and conditions are propitious, an examination of the prostatic secretion shows an almost normal composition with but little pus. This apparent paradox is rather difficult to explain. The mechanisms of anti-body formation may suggest themselves at once to those who favor convenient hypotheses.

If, then, cases occasionally get well without treatment, most of them do not. The issue of such cases depends entirely upon how they respond to accepted therapeutic measures. These well-known measures consist of prostatic massage followed by an instillation of silver nitrate, ½% to 2%, or the use of other solutions in various ways, and the administration of vaccines, using pure gonococcic, mixed gonococcic, or the sensitized preparations, the so-called sero-bacterins. Both interval and dosage must be regulated to suit the demands of the case. Now it is gratifying to observe undoubted recovery many times, but such recovery is seldom

prompt and, besides, so often does treatment fail to accomplish more than mere improvement that some uncertainty, not to say misgiving, is very apt to develop.

Whether the conditions presenting appear favorable or not upon the premises previously mentioned, the probable duration of treatment can only be approximately surmised. Even then the unexpected so frequently happens that one hesitates to venture an opinion. However, within three or four weeks from the commencement of treatment the views on duration should become clearer, depending upon the manifest results thus far obtained and the possibilities for continued progress. When nodules are felt to soften or vanish from the substance of the gland and the amount of pus in an average microscopic field is seen to diminish and the normal elements to increase in proportion, an early cure may be predicted with reasonable assurance.

But it happens all too often that no change of the conditions takes place, though uniform treatment has extended over a period of six to seven weeks. The assumption is reasonable that continuance of such treatment without modification must remain without effect. It can only serve to prolong indefinitely what it seeks to allay. Under such circumstances routine is fruitless and can scarcely be countenanced. The procedures employed must be modified or additions made with a view to securing improvement, a systematic plan for the purpose being advisable. It may be necessary to massage the prostate at longer, seldom shorter, intervals than three days. Massage may have been too vigorous or too prolonged. Parenthetically it may be stated that an occasional red blood cell may be found in the secretion, though gentleness has been observed. But actual trauma through severe massage must be avoided, for it is only reasonable that a tissue already inflamed can not thus be restored to normal; in fact harm may be done. Perhaps it is not the massage but the instillation which serves to prolong the disease or otherwise obscure the evidence of restitution. The strength of the silver solution employed may have to be modified or it may be necessary to substitute one of the various organic preparations for the nitrate. Occasionally a peculiar idiosyncrasy to silver is seen. The immediate reaction may not be severe but there is evidence that the case is unfavorably influenced and irrigation may be found to be preferable. Here again systematic use of one's resources is called for.

In many cases, either at the beginning or at some time during the course of treatment, recourse to the use of vaccines may be thought necessary. This, of course, is always a tempting subject for discussion, which is too likely to be carried beyond the proper province of this paper, the title of which, it will be recalled, is prognosis, not treatment. That vaccines have added an effective means of aid in the achievement of favorable results is generally admitted. Stock vaccines are usually employed and here again the vital point is the systematic control of the kind, dose and interval, adherence to a definite plan being of first importance. Should the ordinary stock suspension not avail, the use of the sensitized preparations is certainly worth trial. There are some who favor autogeneous vaccines exclusively and doubtlessly upon very justifiable grounds. But the securing of a culture from the prostatic secretion is surrounded by certain difficulties, leading to uncertainty in the identification of the growing organism with pathogenic relations to the prostate. Smears made from the meatus show the gleety discharge associated with chronic prostatitis to be teeming with enormous numbers of organisms of the greatest variety. Hence, contaminations from this source are almost inevitable, whatever method be used for securing a culture.

On the whole there is a justification in the use of vaccines as an adjuvant in the treatment of prostatitis, provided the vaccines be used thoughtfully and in accordance with the established principles of vaccine therapy. They do seem at times to shorten the course of treatment and in some cases appear indispensable to cure. To this extent they favor prognosis. Nor on the other hand can they be truthfully said to hinder the progress of a case except perhaps in isolated instances. Frequently they absolutely fail to offer any evidence of action whether for good or bad. The relation of vaccine therapy to prognosis is consequently shrouded in considerable uncertainty, as at the outset one can not distinguish those cases that will respond from those that will not.

Quite relevant to the subject of therapy, it is sometimes rather surprising to observe the value of personal hygiene in its effect upon the condition in the prostate. Cases that are so intractable as to appear hopeless are occasionally seen to improve or completely recover as the result of a change of climate, a vacation, or a change of occupation. Iron and arsenic may also render some assistance and serve to turn the tide in the patient's favor.

Now up to this point I have attempted to present the subject of prognosis from three angles, namely, history, clinical findings and the influence of treatment, all readily available for those seeking data upon which to base rather tentative conclusions. There are methods untouched upon which, though at present insufficiently exploited to be of value, suggest possibilities for greater clearness in defining the outlook in prostatitis. In fact at some future time they may perhaps enable us to determine with scientific exactness the conditions upon which cure may logically be anticipated. I have reference more particularly to the bacteriology of prostatitis. There are two serious obstacles, however, opposed to bacteriologic study of the living, firstly, the afore-mentioned technical difficulties of securing a true culture, and secondly, the probable failure of growth of the gonococcus, even if, as the principal invading organism, it be successfully transferred to a suitable culture medium. The complement deviation test may serve to circumvent this difficulty, but at the present time it would be rather premature to discuss prognosis upon the basis of bacteriologic or serologic findings.

Time is always an important element of prognosis, one of its fundamental factors. Whether the prostatic condition appear favorable or unfavor-

able, mild or severe, the probable duration of treatment can never be otherwise than approximately foretold. Owing to the necessary vagueness of the response, an embarrassing situation is often created, when one is asked, "How long do you think it will take?" In committing himself to a definite answer the consultant is quite certain to suffer criticism later for promises unfulfilled. A non-committal policy is by all means the best, because it is the only one justified. It is usually more prudent to tell patients that an answer can only be shaped in conformity with the progress of the condition under treatment. Three or four weeks may have to elapse before a definite opinion, if warranted at all, may be ventured, for the duration of treatment is essentially of indefinite length.

It is unfortunate that there is no escape from this vagueness. Thought and experience have rather induced conservatism of opinion and an avoidance of preconceived ideas of a program. One must be prepared to meet besides the unexpected frequent disappointment and many contradictions, exceptions too numerous to sustain any formula. This diffident attitude I have attempted to reflect in the foregoing, and, if there is a lack of clearness, it is because the subject matter itself is not clear. Yet the prognosis of prostatitis is of such importance as to imperatively demand better support. I have tried to show to what extent these demands may be answered.

CONCLUSIONS.

1. It is desirable that prostatitis be cured in every case, but treatment frequently fails or is otherwise unsatisfactory.
2. The outlook is an important matter to the individual as well as from the standpoint of social hygiene and prophylaxis.
3. The probable issue is suggested by the history, the clinical findings and by closely following the effects of treatment.
4. There is really no scientific method of establishing prognosis, though bacteriology may avail here.
5. The duration of treatment is uncertain.

Discussion.

Dr. W. P. Willard: I presume a great many others have something to say on this subject. I think it interests us more, perhaps, than any other of the subjects connected with the genital organs. There are some things in which I do not agree with Dr. Silverberg. One is in regard to the length of time. I do not think that you can, in six or eight weeks' time, determine definitely whether you can cure or have benefited your patient. Sometimes it takes much longer than that. I should put it at least three months, probably four.

Another thing in regard to the question of diagnosis. I do not think we can rely at all on the palpatory findings. I think it is practically of no value at all. You never find two normal prostates exactly alike. One microscopic examination of secretion is not absolutely reliable, as you may not get secretion from an infected portion of the gland.

In regard to the question of the vaccine treatment, what are you dealing with? How many cases of prostatitis are due to chronic gonorrheal infection? Primarily they probably are, but the vast majority, in my opinion, are kept up by secondary infection. I was talking with Dr. Warden, who has done a great deal of work on the bacteriology of the genital organs. He claims that it is almost impossible to find gonococci in the prostate secretion after the disease has been present for a year. This is an old idea, but he has recently worked it out further. The primary organism was probably gonococcus. But the gonococcus is easily outgrown. We have the urethra, the rectum, and other adjacent organs teeming with other bacteria, and probably the inflammation in the prostate is kept up, in a large number of cases, by other organisms. I think the reason we have not had any results from our vacuum plaque treatment is due to not being able to find out what the infecting organism is. I never yet have found anyone who has had any success at all with the use of bacterins in treating prostatitis. I am glad Dr. Silverberg has been more successful.

Dr. Martin Krotoszyner: The prognosis of prostatitis depends as much upon the intelligence of the patient as upon that of the physician. Unfortunately there exist comparatively few patients with sufficient patience and perseverance to remain with one physician during the long course of treatment, and, that, to my mind, is the main reason why, as Dr. Silverberg mentioned, so many patients run from one physician to another.

Another factor which clouds the outlook of chronic prostatitis is, that it still so frequently is overlooked by the general practitioner and therefore remains untreated. I think it was in 1898, or about that time, that Casper published his very methodical investigations of the pathology of chronic gonorrhea, when he was able to trace between 80% and 90% of these cases to be due to the persistence of a focus in the prostate. That fact has unfortunately not yet penetrated into the rank and file of the general practitioner, and we urologists, therefore, still see quite frequently cases that have been permitted to enter matrimony with chronic and untreated prostatitis.

As regards the diagnosis I place particular stress upon the microscopic examination of the expressed prostatic juice. No other objective symptom, including palpation of the gland per rectum, is diagnostically of such uncontrovertible importance as the presence of microscopic pus, even though gonococci may not be traceable in the specimens.

I agree with Dr. Silverberg in the preponderating importance of methodical massage in the treatment of prostatitis. Long experience with that method of treatment has taught me, though, that in some cases the presence of pus in the prostate, if persistent, while all other symptoms have abated, may be due to traumatism of the gland caused by overmassage. If these patients are permitted to go untreated for a month or two, the microscopic picture will gradually change to the normal.

I have of late studied my material of chronic prostatitis serologically and, while not yet able to formulate conclusions, I nevertheless feel from my observations justified in hoping that the complement fixation test for gonorrhea may prove to be an important guide as regards the prognosis of prostatitis, especially in connection with the question of contemplated matrimony.

Dr. M. Wolff: The fixation test in chronic prostatitis will probably never amount to much as an aid to diagnosis on account of the condition described in the statement of Dr. Warden that the gonococcus is really not present. In doing fixation work, you get less positives in prostatitis than in other post gonorrheic conditions. That would seem to show that the gonococcus itself was not there in its true form, and if that were so the culture method would probably offer better results, because with the new media it is not so difficult to grow the gonococcus and demonstrate its presence if it is there among the other more common bacteria always found in these chronic prostatitis cases.

Dr. Vecki: The subject is of such importance

I cannot refrain from making just a few remarks. Of course, palpation of the prostate, as it was said, does not amount to much, if we consider the contours and the shape and such things, but there is one point that always should be noted, and that is the sensitiveness. The gland that is inflamed and is involved in any kind of infection will show a great deal of sensitiveness, while a gland that is not infected will not be so sensitive.

Another point that physicians who have been studying prostatitis for many years have always lost sight of is this: All patients that come with chronic prostatitis are generally of the class who have either been neglecting their sexual life or are unable to lead a natural sexual life. If you investigate all your prostatic patients, you will seldom find a case that offers any difficulty in curing in a person who leads an active and vigorous sexual life. No massaging will amount to the therapeutic influence of regular and vigorous sexual intercourse. Just consider that point and study your patients in that respect, and you will find it is always the man sexually weak, who does not lead an active sexual life, that comes to you with all imaginable prostatic troubles, so tedious to influence therapeutically.

Of late I am not so much afraid of chronic prostatic cases, and that is since I use fuchsin. Whenever I massage a prostatic gland and express everything that is in that gland, just gently, but thoroughly, without hurting the patient very much, getting out of the gland all the accumulation, then, immediately after the patient has urinated, I take a hand syringe filled with a one-fourth to a one per cent. fuchsin solution, and press that into the patient's bladder. There is no doubt that part of that solution penetrates into the prostatic gland. I have had cases in which, when I massaged the gland the day after for my own satisfaction, I could get a fuchsin stained secretion from the prostatic gland. It seems to me that after the prostate is really emptied, it acts as a sponge would. By pressing the stem of the Jannet syringe against the meatus, using discretion again not to hurt the patient, something of the solution reaches through the ducts into the prostatic gland. My cases of prostatitis clear up most wonderfully after the fuchsin treatment. All germs are fuchsinophil and stained by fuchsin. A germ once stained is certainly a good germ. It never hurts that patient any more.

Dr. William E. Stevens: I think we are inclined to be prejudiced in our opinion regarding the prognosis of chronic prostatitis. Although we do not like to admit this it is nevertheless a fact that we have been unable to cure a certain percentage of these cases. They may be given the benefit of the generally accepted therapeutic measures such as regular and prolonged massage, irrigations, instillations, et cetera, and yet a larger or smaller number of pus cells are found on microscopical examination of the prostatic fluid. We discontinue treatment for a time or the patient discharges himself and if the amount of pus has been small and he does not return we flatter ourselves that the case has been cured. Often the symptoms have again appeared but the patient has decided to try another physician.

Recently I have been using an autogenous serovaccine suggested to me by a San Francisco urologist who will shortly publish the technic of preparation and administration together with a large series of cases showing very favorable results. I have been very much impressed by the few cases I have treated so far. One patient had been under the care of competent urologists for two or three years without benefit, the prostatic fluid being loaded with pus cells. This cleared up completely after two intravenous injections of the above vaccine. Whether or not this result can be obtained in a large majority of cases I do not know but I firmly believe that in some types of chronic prostatitis hope of cure depends upon an improved vaccine or serum therapy rather than the present method of treatment.

Dr. Silverberg (closing): As much of the discussion has been in the elaboration of my paper, there is very little to say, except to remind Dr. Willard that I said "three or four weeks' time may have to elapse before a definite opinion, **if warranted at all,** may be **ventured.**"

In regard to the vaccines, I am not so sanguine. I attempted in a way to present the general view rather than my personal experience.

CRIMINAL ABORTIONS AND THE MEDICAL PROFESSION.*

By CHAS. D. BALL, M. D., Santa Ana.

"What would you consider your duty when called to a case of curettage and found it to be criminal abortion?"

This question was asked the candidates for the R. N. certificate by the State Board of Health in the recent October examinations. How would the individual members of this society answer that question? Unless their answers belied their actions many would reply: "I would give the woman the full benefit of my skill and there my responsibility would end." I wonder if any of the nurses made such a reply and how such a reply would be received.

To-day criminal abortion is the most vital problem that confronts our republic; in fact, it beggars all others combined. De Lee in the Practical Medicine Series, 1912, Vol. 5, quotes Jackson as saying that there are annually in the state of Maine fifty thousand criminal abortions. If this be true and Maine is a fair average there are, at least, five million criminal abortions in this country every year. So startling are these figures that few outside of the medical profession will believe that they can possibly be correct. It is well to remember that a woman addicted to the abortion habit may have four abortions where she would have one labor at term. One case has been reported of a woman who miscarried thirty-six times. Germany lost in killed, wounded and missing two and a half million men in the first eighteen months of the present war—the bloodiest war of all ages. Probably less than a million of the Germans were killed outright. During that period seven and a half million of our infants were destroyed. The world is stunned at Germany's terrible loss, but takes not the least notice of America's heart-breaking tragedy. Germany's misfortune will stagger her for a short time, but America's, if continued, means annihilation.

The meager returns of the census of 1910 show that about two million viable babes are born annually. This means that for every living child born there are two and a half abortions.

Abortions are steadily increasing. Busy practitioners are constantly besieged by those soliciting abortion work. The hospitals are filled with this class of patients. Were it not for immigration and the children born of foreign parents our population would be rapidly decreasing.

* Read before the Southern California Medical Association, December, 1915.